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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,238	01/17/2007	Toshihiro Fukumoto	FUKUMOTO7	9731
1444 7590 06/20/2008 BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303				
EXAMINER YACOB, SISAY				
ART UNIT 2612		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/584,238

**Applicant(s)**

FUKUMOTO ET AL.

**Examiner**

SISAY YACOB

**Art Unit**

2612

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☒ Claim(s) 8 and 9 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/808)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1 The application of Fukumoto et al. for "Facilitated Safe Car Steering Device" filed on January 17, 2007 has been examined.

### Election/Restrictions

2 Applicant's election without traverse of claims 1-7 and 10-11 in the reply filed on May 23, 2008 is acknowledged.

**Claim 1-7 and 10-11 are pending.**

### Claim Rejections - 35 USC § 112

3 The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 1, 4, 6, the phrase "such as" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, **as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Referring to claim 7, “**a program depends on feature of vehicle to build onto a driving modes**” is unclear of its nature. Examiner treats it as “**a program for a vehicle to select driving mode**”.

**Note:**

In claim 3, examiner is not clear on what the applicant mean by the phrase “**taking in the location of a car correctly**”. Any conventional location identifying features of vehicles/cars are to provide a correct location, so examiner treats the claimed limitation as “**taking in the location of a car**”. Because, if the location information is not correct there is no need to have the location information.

**Claim Rejections - 35 USC § 102**

4 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5 **Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent of Lemelson et al. (6,487,500 B2).**

As to claim 1, Lemelson et al. discloses system for vehicles to specify the running location on the road (Col. 10, lines 38-67) comprising recording lateral information (Col. 11, lines 1-8) on the road provided by GPS or a car navigation

Art Unit: 2612

system (Col. 18, line — Col. 19, line 15) as well as information of buildings on the road , longitudinal level of the ground (Col. 11, lines 33-50), and existence of the guardrail (Col. 21, lines 6-37; *i.e. a road barrier would include a guardrail*), constructing a confirmation system of the car location combining a large-volume date recording system such as CD, DVD (Col. 17, lines 31-59; See figure 5), or the other devices developed from now to obtain vertical image of a car location and a vertical information as well as a road information currently available to improve a dimensional location confirmation system (Col. 22, line 48 — Col. 23, line 2), and calculating an actual location such as a distance from the end of the road or the center line by using the confirmation system and analyzing images provided by elemental devices placed in front and backward fixedly or turnably to specify the current location of the car (Col. 23, line 3 — Col. 24, line 8).

As to claim 2, Lemelson et al. discloses digitizing images by using CCD or CMOS elements for driving safety (Col. 22, line 48 — Col. 23, line 2), discriminating and managing the risks for a car by comparing images or object information which is information of object of cars, human waling, object approaching to the car, guardrail, center line, and traffic sign recorded in ROM or DISK etc. (See figure 5) and patternized after calculating distances and shapes, measuring distances from between the object and a car continuously, calculating moving states of the object and distances from a car near-future to control as information of the risks, and analyzing these information and the risks based on speed, direction, and weight of the car to calculate the location of the car after few minutes (Col. 23, line 3 — Col. 24, line 8).

Art Unit: 2612

As to claim 3, Lemelson et al. discloses forecasting a location of the car by taking in the location of a car correctly (Col. 10, lines 38-67), and analyzing a distance and shifting of the object in a shortest distance using images provided by elemental devices (Col. 23, line 3 – Col. 24, line 8).

### **Claim Rejections - 35 USC § 103**

6 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7 **Claims 4-7 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson et al. in view of the U.S. Patent of Muller et al.(5,845,735) and further in view of the U.S. Patent of Yao et al. (6,795,763 B2).**

As to claim 4, Lemelson et al. does not expressly disclose replacing steering gear to one or two operational sticks and omitting a steering wheel, brake, pedals of an accelerator and a clutch, wherein the operational sticks are fly-wire type, the first operational stick detects the driving directions or the shifting from the center line to analyze and replace to the electronic information and transmit them to the various control device such as engine control device, control device of tire direction, and gear control device, and the second operational stick is used for setting driving mode, reporting driver's intention to the driving control device, and managing control device to avoid the mechanical error, and setting driving mode such as automated driving, overtaking driving, back up, parking, following mode, on-the- street parking mode, or leading mode in order to transmit driving control device.

Muller et al. discloses a system for controlling driving by using operational sticks comprising: replacing steering gear to one or two operational sticks and omitting a steering wheel, brake, pedals of an accelerator and a clutch (abstract; Col. 3, lines 57-60; See figures 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the a system for controlling driving of a vehicle of Lemelson et al. by replacing the steering gear and pedals by the operational sticks, as disclosed by Muller et al., in order to have a system for controlling driving by using operational sticks, comprising: replacing steering gear to one or two operational sticks and omitting a steering wheel, brake, pedals of an accelerator and a clutch, because both prior arts are directed to solving the same

problem and Muller et al. discloses the claimed limitations, furthermore it is conventional in the art to replace steering gear and pedals by operational sticks.

However, the combination of Lemelson et al. and Muller et al. does not expressly disclose the operational sticks being a fly-wire type, the first operational stick detects the driving directions or the shifting from the center line to analyze and replace to the electronic information and transmit them to the various control device such as engine control device, control device of tire direction, and gear control device, and the second operational stick is used for setting driving mode, reporting driver's intention to the driving control device, and managing control device to avoid the mechanical error, and setting driving mode such as automated driving, overtaking driving, back up, parking, following mode, on-the- street parking mode, or leading mode in order to transmit driving control device.

Yao et al. discloses a system and method of controlling a vehicle that employs a fly-wire (**steer-by-wire**), wherein the first operational means detects the driving directions or the shifting from the center line to analyze and replace to the electronic information and transmit them to the various control device such as engine control device, control device of tire direction, and gear control device (Col. 2, line 3 – Col. 3, line 7), and the second operational means that is used for setting driving mode, reporting driver's intention to the driving control device, and managing control device to avoid the mechanical error, and setting driving mode such as automated driving, overtaking driving, back up, parking, following mode,



on-the- street parking mode, or leading mode in order to transmit driving control device (Col. 13, line 65 – Col. 14, line 35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Lemelson et al. and Muller et al. by incorporating the fly-wire (**steer-by-wire**) and operational means that is used for setting driving mode of Yao et al., in order to have a system for controlling driving by using operational sticks, comprising: replacing steering gear to one or two operational sticks and omitting a steering wheel, brake, pedals of an accelerator and a clutch, wherein the operational sticks are fly-wire type, the first operational stick detects the driving directions or the shifting from the center line to analyze and replace to the electronic information and transmit them to the various control device such as engine control device, control device of tire direction, and gear control device, and the second operational stick is used for setting driving mode, reporting driver's intention to the driving control device, and managing control device to avoid the mechanical error, and setting driving mode such as automated driving, overtaking driving, back up, parking, following mode, on-the- street parking mode, or leading mode in order to transmit driving control device, because Muller et al. discloses two or more operational sticks for operating of a vehicle and omitting a steering wheel, brake, pedals of an accelerator and a clutch and Yao et al. discloses fly-wire (steer-by-wire) type operational means operating of a vehicle that incorporate an operational means for setting driving mode and/or reporting driver's intention, which suggest the operational means could be an operational stick (joy stick) (Col. 3, lines 57-64).

As to claim 5, Lemelson et al. discloses a system for stopping a vehicle when the driving safety is not provided because general system and driving information for drivers using operational sticks is against the information provided by the system (Col. 9, line 66 – Col. 10, line 5).

As to claim 6, Lemelson et al. discloses an assist device for measuring distances between a car and objects around the car placed in a directional light or a back light comprising light emitting system such as infrared light for detecting by elemental devices in the night time (Col. 22, line 58 – Col. 23, line 2)..

As to claim 7, Lemelson et al. discloses system for automated driving according to claim 1, comprising: a program depends on feature of vehicle to build onto a driving modes, images provided by elemental devices, and controlling numerical information based on the images (Col. 23, line 26 - Col. 24, line 8).

As to claim 10, Lemelson et al. discloses the driving sign-board which shows the information for location of the buildings, traffic sign, road condition, current speed, condition of acceleration and decelerating, and condition for the change of the direction, in place of the display mainly containing speedometer which is used before (Col. 14, lines 54-67; Col. 21, lines 7-37).

### **Claim Objections**

8 Claim 11 is objected to as being dependent upon a rejected base claim 1, but would be allowable if rewritten in independent form including all of the limitations of the base claim 1 and any intervening claims.

As to claim 11, the following is a statement of reason for the indication of allowable subject matter: the prior art fail to suggest limitations that using the ratio wave provided by engine and measuring distances comprising, rotating dynamos, catching the electromagnetic waves by radiated from spark which is contacted with carbon brush, by two directional antenna placed on right side and left side, amplifying, measuring distance from sources of waves, calculating by microcomputer the risks of the car in front and in backward based on a speed of each cars, and lightning the alarm lump or driving to avoid the risks automatically depending on the result.

### **Conclusion/Correspondence**

9 Any inquiry concerning this communication or earlier communications from the examiner should be directed to SISAY YACOB whose telephone number is (571)272-8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sisay Yacob

6/15/2008

/Sisay Yacob/

Examiner, Art Unit 2612

/Jeff Hofsass/

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